PROBLEM:

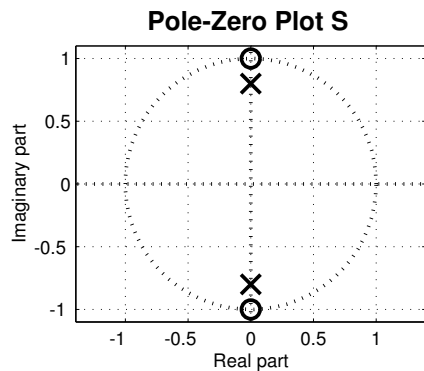**Pole-Zero Plot P**
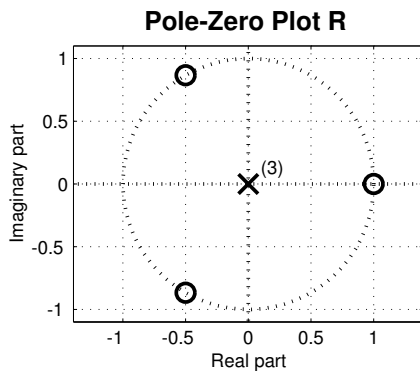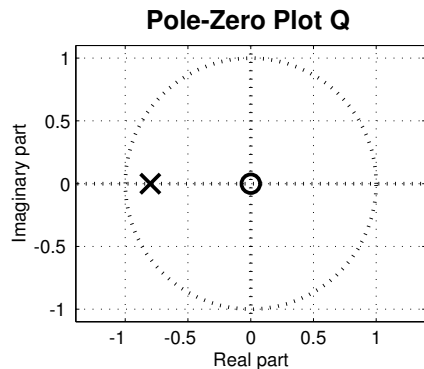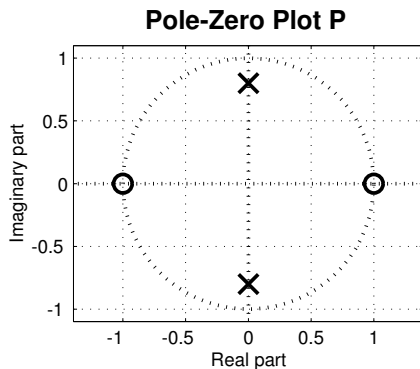
Pole-Zero Plot Q

Pole-Zero Plot R

Pole-Zero Plot S

For each of the pole-zero plots (P, Q, R, S), determine which one of the following systems (specified by either an impulse response $h[n]$, a difference equation, or a MATLAB statement) matches the pole-zero plot. *There is only ONE correct match per plot.*

$\mathcal{S}_1:$ $h[n] = \delta[n] + 0.8\delta[n-1]$

$\mathcal{S}_5:$ y=filter([1,1,1,1],1,x)

$\mathcal{S}_2:$ $h[n] = (-0.8)^n u[n]$

$\mathcal{S}_6:$ $y[n] = -0.64y[n-2] + x[n] - x[n-2]$

$\mathcal{S}_3:$ $y[n] = -0.64y[n-2] + x[n] + x[n-2]$

$\mathcal{S}_7:$ $h[n] = (-0.8)^n u[n] - (0.8)^n u[n]$

$\mathcal{S}_4:$ $y[n] = x[n] - x[n-3]$

Mark your answer in the following table:

POLE-ZERO PLOT	SYSTEM ($\mathcal{S}_\#$)	POLE-ZERO PLOT	SYSTEM ($\mathcal{S}_\#$)
P		Q	
R		S	